CLAIMS

1. (currently amended) An isolated nucleic acid ~~sequence~~ which codes for a polypeptide having nitrilase activity, selected from the group consisting of:

a) a nucleic acid ~~sequence~~ having the sequence depicted in SEQ ID NO: 1,

b) ~~a~~ nucleic sequences which are derived from the nucleic acid sequence depicted in SEQ ID NO: 1 which codes for the polypeptide depicted in SEQ ID NO: 2 as a result of the degeneracy of the genetic code,

c) derivatives of the nucleic acid sequence depicted in SEQ ID NO: 1, which code for polypeptides having the amino acid sequences depicted in SEQ ID NO: 2 and have at least 97% homology at the amino acid level, with negligible reduction in the enzymatic action of the polypeptides.

2. (currently amended) An isolated ~~amino acid sequence~~ polypeptide encoded by a nucleic acid sequence as claimed in claim 1.

3. (previously presented) An isolated amino acid sequence as claimed in claim 2, encoded by the sequence depicted in SEQ ID NO: 1.

4. (original) A nucleic acid construct comprising a nucleic acid sequence as claimed in claim 1, the nucleic acid sequence being linked to one or more regulatory signals.

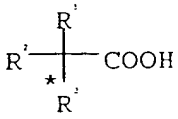
5. (previously presented) A vector comprising an nucleic acid sequence as claimed in claim 1.

6. (previously presented) A transformed micoorganism comprising at least one nucleic acid sequence as claimed in claim 1.

7. (previously presented) A transformed microorganism comprising at least one nucleic

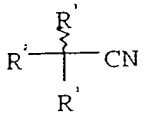
acid sequence as claimed in claim 1.

8. (currently amended) A process for preparing chiral carboxylic acids of the general formula I



(I),

which comprises converting racemic nitriles of the general formula II



(II)

in the presence of <u>an isolated polypeptide or protein having the</u> amino acid sequence <u>of SEQ ID NO: 2</u> ~~as claimed in claim 2~~, and where at least 25 mmol of nitrile are converted per h and per mg of protein, or 25 mmol of nitrile are converted per h and per g of dry weight, into the chiral carboxylic acids, where the substituents and variables in the formulae I and II have the following meanings:

* an optically active center

R^1, R^2, R^3 independently of one another hydrogen, substituted or unsubstituted, branched or unbranched C_1-C_{10}-alkyl, C_2-C_{10}-alkenyl, substituted or

unsubstituted aryl, hetaryl, OR^4 or NR^4R^5 and where the radicals R^1, R^2 and R^3 are always different.

R^4 hydrogen, substituted or unsubstituted, branched or unbranched C_1-C_{10}-alkyl, C_2-C_{10}-alkenyl, C_1-C_{10}-alkylcarbonyl, C_2-C_{10}-alkenylcarbonyl, aryl, arylcarbonyl, hetaryl or hetarylcarbonyl,

R^5 hydrogen, substituted or unsubstituted, branched or unbranched C_1-C_{10}-alkyl, C_2-C_{10}-alkenyl, aryl or hetaryl.

9. (original) A process as claimed in claim 8, wherein one of the substituents R^1, R^2 or R^3 is OR^4.

10. (previously presented) A process as claimed in claim 8, wherein one of the substituents R^1, R^2 or R^3 is aryl.

11. (previously presented) A process as claimed in claim 8, wherein the process is carried out in an aqueous reaction solution at a pH between 4 and 11.

12. (previously presented) A process as claimed in claim 8, wherein from 0.01 to 10% by weight of nitrile or from 0.01 to 10% by weight of a corresponding aldehyde or ketone and from 0.01 to 10% by weight of hydrocyanic acid are reacted in the process.

13. (previously presented) A process as claimed in claim 8, wherein the process is carried out at a temperature between 0°C and 80°C.

14. (previously presented) A process as claimed in claim 8, wherein the chiral carboxylic acid is isolated from the reaction solution in yields of from 60 to 100% by extraction or crystallization or extraction and crystallization.

15. (previously presented) A process as claimed in claim 8, wherein the chiral

carboxylic acid has an optical purity of at least 90%.